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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,520	04/09/2004	An Duc Nguyen	11336/713 (P03034USU1)	9853

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EXAMINER
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NI, SUHAN

ART UNIT	PAPER NUMBER
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2615

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/06/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/821,520

Applicant(s)

NGUYEN ET AL.

Examiner

Suhan Ni

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 1/8/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 13-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,6-12 and 17-34 is/are rejected.
- 7) ☒ Claim(s) 3-5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 10/27/04; 4/25/05; 12/02/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Election/Restriction***

1. This communication is responsive to the provisional election made without traverse on 01/04/2007 to prosecute the invention of Group I, claims 1-12 and 17-34. Other Group, including claims 13-16 are withdrawn from further consideration, as being drawn to a non-elected invention. A complete reply to a future final office action must include cancellation of non-elected claims or other appropriate action (37 CFR 1.144). See MPEP § 821.01.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130 (b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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2. Claims 1-12 and 17-34 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-68 of U.S. Patent Application No. 10/821,521. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-68 of U.S. Patent Application No. 10/821,521 are similar in scope to claim 1-12 and 17-34 of the U.S. Patent Application 10/821,520 with obvious wording variations.

3. Claims 1-12 and 17-34 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-40 of U.S. Patent Application No. 10/821,673. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-40 of U.S. Patent Application No. 10/821,673 are similar in scope to claim 1-12 and 17-34 of the U.S. Patent Application 10/821,520 with obvious wording variations.

### ***Drawings***

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed limitations of “**a cone-type transducer**” (claim 34) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must

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be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

5. Claims 33-34 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 33-34 claim the limitation of "**a loudspeaker**" which fails to limit the subject matter of the previous claim, claim 17, claiming "**an low-profile transducer**".

### ***Claim Rejections - 35 USC § 112, 2<sup>nd</sup> Paragraph***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

6. Claims 2-5 and 17+ are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 2, the limitation of “a voice coil mounted on the fin portion” in line 3 is indefinite since it is not clear how many set of “voice coil mounted on the fin portion” claimed (please see claim 1 for the same limitation).

Regarding claims 3-5, it recites the limitation “the low-profile transducer” in line 1. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 17, the limitation of “the voice coil” in line 11 is indefinite since it is not clear which “voice coil” does it refer to.

Regarding claim 17, it recites the limitation “the diaphragm” in line 9. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 17, it recites the limitation “the projection surface” in line 10. There is insufficient antecedent basis for this limitation in the claim.

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### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) The invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

7. Claims 1-2, 6-12, 17-20, 28-30 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Larson (U. S. Pat. - 4,536,623).

Regarding claim 1, Larson discloses an acoustic transducer comprising: a sheet of diaphragm material folded into portions comprising: a substantially planar portion (219), and at least one fin portion (214); and a voice coil (215-218) mounted on the fin portion.

Regarding claim 2, Larson further discloses the acoustic transducer, comprising: a magnet (14); the voice coil mounted on the fin portion and immersed in a magnetic field from the magnet (Fig. 1).

Regarding claims 6-7 and 9-12, Larson further discloses the acoustic transducer, where the sheet of diaphragm material is a sheet of electrically non-conductive material (col. 6, line 67 to col. 7, line 29).

Regarding claims 8, Larson further discloses the acoustic transducer, where the sheet of diaphragm material comprises a sheet of electrically conductive material (215-218).

Regarding claim 17, based on the best understood of the claim language, Larson discloses a low-profile transducer comprising: a frame (Fig. 1); a sheet of diaphragm material folded into portions (34) comprising: a planar surface portion (30), and a fin portion (35); a voice coil (36-41) mounted on the fin portion; a magnet structure (14) mounted on the frame, where the magnet structure produces a magnetic-field region; the voice coil being electrically conductive and coupled to the sheet of diaphragm; and the voice coil resides at least partially in the magnetic-field region as claimed.

Regarding claim 18, Larson further discloses the low-profile transducer, where the connection is a pliable surround (18).

Regarding claim 19, Larson further discloses the low-profile transducer, where the voice coil is mounted on the fin (Fig. 1).

Regarding claim 20, Larson further discloses the low-profile transducer, where the fin extends in a direction substantially perpendicular to a projection surface of the planar surface portion (Fig. 1).

Regarding claim 28, Larson further discloses the low-profile transducer, where a projection surface of the diaphragm is in the shape of a rectangle (Fig. 3).

Regarding claims 29-30, Larson further discloses the low-profile transducer, further comprising a filler material (29) attached to the projection surface, and a second sheet (30) of material attached to the filler material, where the filler material and the second sheet provide additional rigidity to the projection surface.

Regarding claim 33, Larson further discloses the low-profile transducer, wherein the low-profile transducer is utilized in a loudspeaker.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 21-23 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larson (U. S. Pat. - 4,536,623) in view of Carme et al (U.S. Pat. - 6,285,773).

Regarding claims 21-23, Larson may not clearly teach a ferromagnetic frame as claimed. Carme et al. disclose a similar structured transducer, comprising a ferromagnetic frame (2). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to be motivated to provide said ferromagnetic frame taught by Carme et al.



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for the transducer as an alternate choice, in order to efficiently and effectively manufacturing the transducer and make the transducer more integrated.

Regarding claim 26, Larson may not clearly teach that the frame has a substantially crenellated shape as claimed. Carme et al. disclose a similar structured transducer, comprising a frame having a substantially crenellated shape (2). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to be motivated to provide said frame taught by Carme et al. for the transducer as an alternate choice, in order to efficiently and effectively manufacturing the transducer and make the transducer more integrated.

9. Claims 24-25, 27, 31-32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larson (U. S. Pat. - 4,536,623).

Regarding claims 24-25, Larson may not clearly teach a non-ferromagnetic frame as claimed. Since providing suitable non-ferromagnetic material for making a frame of a transducer is very well known in the art, it therefore would have been obvious to one having ordinary skill in the art at the time the invention was made to be motivated to provide suitable non-ferromagnetic material, such as plastic, for the frame of the transducer as an alternate choice, in order to efficiently and effectively manufacturing the transducer.

Regarding claims 27 and 31, Larson may not clearly teach that the frame includes a groove as claimed. Since providing suitable groove on the frame of the transducer for mounting a diaphragm is very well known in the art, it therefore would have been obvious to one having ordinary skill in the art at the time the invention was made to be motivated to provide suitable groove on the frame of the transducer for mounting a diaphragm as an alternate choice, in order to efficiently and effectively manufacturing the transducer.

Regarding claim 32, Larson may not clearly teach an insulated metal wire as claimed. Since providing suitable insulated metal wire for making a voice coil of a transducer is very well known in the art, it therefore would have been obvious to one having ordinary skill in the art at the time the invention was made to be motivated to provide suitable insulated metal wire for making a voice coil of a transducer, in order to efficiently and effectively manufacturing the transducer.

Regarding claim 34, Larson may not clearly teach one cone-type transducer as claimed. Since providing suitable cone-type transducer and a panel type transducer for making a compound loudspeaker (please see class 381, subclass 182) is very well known in the art, it therefore would have been obvious to one having ordinary skill in the art at the time the invention was made to be motivated to provide suitable cone-type transducer and a panel type transducer for a compound loudspeaker, in order to efficiently and effectively manufacturing the compound loudspeaker.

#### ***Allowable Subject Matter***

10. Claims 3-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Suhan Ni** whose telephone number is (571)-272-7505, and the

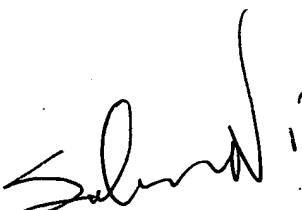
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number for fax machine is (571)-273-7505. The examiner can normally be reached on Tuesday and Thursday from 10:00 am to 8:00 pm, and may be reached on Monday, Wednesday and Friday from 10:00 am to 8:00 pm. If it is necessary, the examiner's supervisor, **Sinh N. Tran**, can be reached at (571)-272-7564.

13. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (**PAIR**) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov/>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

14. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (571)-272-2600, or please see <http://www.uspto.gov/web/info/2600>.

03/26/2007

  
**SUHAN NI**  
**PRIMARY EXAMINER**